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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/172,435	10/14/1998	OCTAVIUS J. MORRIS	PHB-34.200	9272

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EXAMINER	
CHIEU, PO LIN	

ART UNIT	PAPER NUMBER
2615	17

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/172,435	Applicant(s) MORRIS ET AL.	
	Examiner Polin Chieu	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 9-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7 and 9-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/28/03 have been fully considered but they are not persuasive. The Applicant has argued that "characterised in that in the step of formatting comprises the further step of identifying intra-coded frames and of inserting additional data blocks in said data block stream at fixed periodically repeated intervals, each of said additional blocks carrying data identifying the relative location in the data block stream of the first or only data block in the data block stream of the closest previously formatted intra-coded image frame". Kawamura et al discusses background art using a fixed compression rate so that I frames cyclically occur at predetermined positions, which is determined by calculation. The Applicant argues that the placement of I pictures at cyclically predetermined positions makes it unnecessary to use additional data blocks at fixed periodically repeated intervals because the cyclical placement of the I frames enable the positioning of the I frame to be identified independently of where the additional data blocks are placed. The examiner stated in the previous Office Action dated 1/14/03, that motivation to have additional data blocks is that the additional data blocks eliminate the need to calculate the position of the I frame. The additional data blocks (or entry packets in Kawamura et al) contain information identifying the location of the I frames (fig. 19). Kawamura et al provides additional data blocks for data having a variable coding rate because the search operation becomes long (col. 3, lines 12-67), thereby making trick play difficult. The examiner acknowledges that **if** the I frame positions are being calculated in a fixed compression rate system **then** additional data

blocks are not needed. However, the use of additional data blocks or entry packets taught by Kawamura et al is an alternative method that eliminates the need to calculate I frame positions because the additional data blocks contain data indicating the location of the I frames. Further, the examiner believes that the use of additional data blocks or entry points provides the benefit of not only eliminating circuitry needed to calculate the I frame position but also the device will be able to provide trick play for variable coding rate data.

The Applicant alleges, "Kawamura suggest that such calculation is desirable because it enables the positions of the I blocks to be determined". The examiner believes that Kawamura et al is in fact suggesting the opposite. In the section cited by the Applicant, Kawamura et al states, "However, in the case where compression of variable rate is being carried out, position of I picture becomes indefinite. Thus, it is difficult to provide an access." From the disclosure of Kawamura et al, one of ordinary skill in the art recognizes that calculation is not desirable because the I picture position is difficult to determine for trick play if a variable compression rate is used. Although Kawamura et al does not suggest using the additional data blocks for data having a fixed compression rate, one of ordinary skill in the art recognizes that additional data blocks can be used for data having a fixed compression rate. Further, one is motivated to do so because it would eliminate circuitry needed to calculate the position of I pictures for data having a fixed compression rate. Ishii et al uses additional circuitry (203) to calculate an address (col. 4, lines 25-43). Clearly if the address is known the calculation does not have to be performed then the additional circuitry (203) can be

eliminated. The examiner notes that an alternative to using additional circuitry is having software to perform the operations the circuitry. However, software requires additional memory, which can also be eliminated if the calculation is not needed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4-7, and 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al (5,621,840).

Regarding claims 1 and 13-15, Kawamura et al discloses a MPEG recording/reproducing device that records data blocks (col. 8, lines 10-17) and outputs data blocks to produce a sequence of video images in figures 17 and 18. Kawamura et al discloses that MPEG coding codes data in I, P, and B frames; and I frames are coded without reference to other frames; and P and B frames coded in reference to other frames (col. 3, lines 1-12). Additionally, it is inherent that each frame (or image sequence) is coded into a plurality of blocks (or macroblocks) in MPEG format. Kawamura et al also discloses inserting additional data blocks into the stream, each of the additional blocks carrying data identifying the relative location of the first or only data block of an I frame (col. 7, lines 26-37). However, Kawamura et al does not disclose that a additional data block is inserted at fixed periodically repeated intervals, wherein

the additional data blocks carry data identifying the relative location in the data block stream of the first or only data block in the data block stream of the closet previously formatted intra-coded image frame.

Kawamura et al teaches in the prior art that a fixed rate of compression results in the I frames occurring at predetermined positions (col. 3, lines 13-23). The additional data blocks (i.e. entry packet, fig. 10) are inserted before the video packet header for a packet of video data containing an I picture. If the compression rate is fixed the I frames will be located at predetermined positions in the video stream. Therefore, the additional data blocks (or entry packets) will be inserted at fixed periodically repeated intervals.

It would have been highly desirable to have additional data blocks in the fixed compression rates so that the position of the I frame does not have to be calculated (col. 3, lines 12-23), thereby removing the need for circuitry to calculate the position of entry points and resulting in a more affordable device. Additionally, having a fixed compression rate also allows for easy prediction of the recording area needed to record a desired amount of video data.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have entry points in a fixed compression signal in the device of Kawamura et al.

Regarding claim 4, Kawamura et al disclose storing data identifying the length of the closest previously formatted I frame in figure 19.

Regarding claim 5, Kawamura et al discloses that the images are encoded in accordance with MPEG standard (col. 12, line 13) and all data block are of a common size (col. 8, lines 10-17).

Regarding claims 6 and 16-18, Kawamura et al discloses a storage device (10) capable of being sequentially read and carrying an encoded (1) sequence of video images in figure 17. As discussed previously in the art rejection of claim 1, Kawamura et al discloses images coded without reference to any other images (I frames); images coded with reference to other images (P and B frames); the images formatted into a sequence of data blocks, with additional data identifying the storage location of the first or only data block of the closest previously formatted intra-coded image frame (figure 19), wherein the additional data blocks are provided at fixed periodically repeated intervals within the stored sequence of encoded image data blocks; and at least one image of the sequence formatted into a plurality of data blocks (or macroblocks).

The limitations of claim 7 where discussed in the art rejection of claim 5. Please refer to the art rejection of claim 5.

Regarding claim 9, Kawamura et al discloses carrying at respectively separate storage locations auxiliary data associated with respective encoded image frames and each of the additional data block further carries data identifying storage location of the auxiliary data associated with the particularly indicated I frame (col. 11, lines 47-52).

Regarding claim 10, Kawamura et al discloses that recording medium (DSM) may be an optical disc (col. 1, lines 30-35), wherein the additional data blocks identify

the location of the first or only data block of the closest preceding I frame in terms of location on the disc (figure 19).

Regarding claims 11 and 19-21, as discussed previously Kawamura et al discloses encoding successive images using a predetermined coding scheme, wherein some of the frames are intra-coded (I frames), and the remainder are coded with reference to other frames (P and B frames). Kawamura also disclosed formatting the data into one or a sequence of data blocks; being operable to identify I frames (31), inserting additional data blocks (36) carrying data identifying the location of the first or only data block of the closest previously formatted intra-coded image frame (figure 19), wherein each of the additional data blocks are provided at fixed periodically repeated intervals within the stored sequence of encoded image data blocks; and including formatting at least one image of the sequence into a plurality of data blocks (or macroblocks), as discussed in the art rejection of claim 1.

Regarding claim 12, Kawamura et al discloses a player with a decoder (25) decoding and outputting a sequence of video frames, the player operable in a fast forward or fast reverse mode (col. 1, lines 1-17), the player comprising a means for selecting frames by selecting every Nth data block and displaying the I frame (col. 13, line 40 to col. 14, line 10). Note: many of the limitations disclosed in claim 12 were discussed in the art rejection of claim 11; please refer to the art rejection of claim 11.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al in view of Jain (5,249,053).

Regarding claim 22, Kawamura et al does not disclose encoding at a variable compression rate.

Jain teaches encoding with a variable compression rate (col. 5, lines 53-59).

It would have been highly desirable to have variable compression rate so that the compression rate could be adjusted to provide the maximum compression rate while an acceptable image quality is met (col. 6, lines 7-22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a variable compression rate in the device of Kawamura et al.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Polin Chieu whose telephone number is (703) 308-6070. The examiner can normally be reached on M-Th 8:00 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B. Christensen can be reached on (703) 308-9644. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

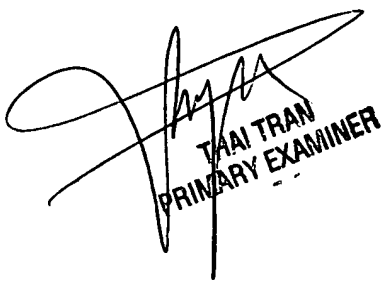
Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



PC
May 22, 2003